**Worksheet 2: Understanding 3D printing**

**Task 1**

**Starter activity**

Listed below are words that relate to the 3D printing process. Some you will already know and some you might not.

Add an appropriate explanation to the words you know already in relation to 3D printing and during the lesson add the ones you don’t know as you hear them being explained.

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| --- | --- |
| **Terminology** | **Meaning** |
| Thingiverse |  |
| Desktop 3D printer |  |
| Filament |  |
| Resin |  |
| G-code |  |
| Additive manufacture |  |
| Laser sintering |  |
| Layers |  |
| Extruder |  |
| Format |  |
| Build plate |  |
| Deposition |  |
| Slicing |  |
| Fusion |  |
| Stereolithography |  |
| Fabrication |  |

**Task 2 - Creating or downloading CAD models**

CAD(Computer Aided Design) software, such as AutoDesk Inventor, Fusion360 or SolidWorks, enable designers to create digital models which can then be 3D printed.

(a) Describe **two** advantages and **one** disadvantage of using CAD software.

One example is interaction. The designer can interact with a model in real-time. Revolving, rotating and zooming in and out; something which would not be possible with a drawing.

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| **Advantage** | **Description** |
|  |  |
|  |  |
| **Disadvantage** |  |
|  |  |

**Downloaded models**

Websites, such as Thingiverse, allow people to share their designs. Some are free, and some must be bought.

(b) Describe **one** advantage and **one** disadvantage of using a downloaded file as opposed to designing a model yourself.

|  |  |
| --- | --- |
| **Advantage** | **Description** |
|  |  |
| **Disadvantages** |  |
|  |  |